

FEBRUARY/FY06

FORT HUACHUCA

Arizona

**Army Defense Environmental
Restoration Program
Installation Action Plan**

FINAL 17 APR 2006

Table of Contents

Table of Contents	1
Statement of Purpose	2
Acronyms & Abbreviations	3
 Installation Information	5
Clean Up Summary	7
 IRP Program	8
Summary	9
Contamination Assessment	10
IRP Active Sites	24
FTHU-10, South Range Landfill (Old Landfill 6 and 7).....	25
FTHU-54A, PX Gas Station.....	27
FTHU-65, East Range Mine Shaft.....	28
FTHU-85, Greely Hall UST Release Site.....	29
FTHU-90, Greely Hall Gasoline Release.....	30
IRP No Further Action Site Summary	31
 IRP Schedule	34
IRP Costs	36
 Military Munitions Range Program	37
Summary	38
Contamination Assessment	39
MMRP Active Sites	40
FTHU-001-R-01.....	41
FTHU-002-R-01.....	42
FTHU-003-R-01.....	43
FTHU-004-R-01.....	44
FTHU-005-R-01.....	45
FTHU-006-R-01.....	46
FTHU-007-R-01.....	47
FTHU-009-R-01.....	48
FTHU-010-R-01.....	49
FTHU-011-R-01.....	50
FTHU-012-R-01.....	51
FTHU-013-R-01.....	53
FTHU-014-R-01.....	53
FTHU-015-R-01.....	54
FTHU-016-R-01.....	55
IRP No Further Action Site Summary	56
 MMRP Schedule	57
MMRP Costs	58
Community Involvement	59

Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Cleanup Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

In an effort to coordinate planning information between the installation restoration program manager, US Army Environmental Center (USAEC), Fort Huachuca and Arizona Department of Environmental Quality, an IAP was completed. The IAP is used to track requirements, schedules and tentative budgets for all Army installation cleanup programs.

All site specific funding and schedule information has been prepared according to projected overall Army funding levels and is therefore subject to change during the document's annual review.

The following agencies contributed to the formulation and completion of this Installation Action Plan on 24 January, 2006:

Company/Installation/Branch

USAEC

Fort Huachuca/IMSW-HUA-PWB

Engineering & Environment, Inc. for USAEC

Fort Huachuca/IMSW-HUA-PWB

Acronyms & Abbreviations

AAF	Army Airfield
ACSIM	Assistant Chief of Staff for Installation Management
ADEQ	Arizona Department of Environmental Quality
AEDB-R	Army Environmental Database- Restoration
AWQS	Aquifer Water Quality Standard
bgs	Below Ground Surface
BRAC	Base Re-Alignment and Closure
CA	Consent Agreement
CAP	Corrective Action Plan
COL	Colonel
CPOC	Civilian Personnel Operating Center
DERA	Defense Environmental Restoration Account
DoD	Department of Defense
EPA	Environmental Protection Agency
ER,A	Environmental Restoration, Army (previously referred to as DERA)
FS	Feasibility Study
FTHU	Fort Huachuca
FY	Fiscal Year
HBGL	Health Based Guidance Level
HRR	Historical Records Review
JITC	Joint Interoperability Test Command
IAP	Installation Action Plan
IMA	Installation Management Agency
INV	Investigation
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISC	Initial Site Characterization
LAAF	Libby Army Airfield
LTM	Long Term Management
LUST	Leaking Underground Storage Tank
MC	Munitions Constituents
MEC	Munitions and Explosives of Concern
MI	Military Intelligence
MMRP	Military Munitions Response Program
MTBE	Methyl Tertiary Butyl Ether
NETCON	Network Enterprise Technology Command
NFA	No Further Action
NPL	National Priority List
OB/OD	Open Burning Open Detonation
ORC	Oxygen Release Compounds
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbons
ppm	Parts per million
POL	Petroleum, Oil & Lubricants
PX	Post Exchange
RA	Remedial Action

Acronyms & Abbreviations

RA(C)	Remedial Action – Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REM	Removal Action
RI	Remedial Investigation
RIP	Remedy in Place
RMIS	Restoration Management Information System
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
SRLr	Soil Remediation Level residential (AZ)
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TAPP	Technical Review for Public Participation
TPH	Total Petroleum Hydrocarbons
TRADOC	Training and Doctrine Command
TRC	Technical Review Committee
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Center
USAEHA	United States Army Environmental Hygiene Agency (replaced by CHPPM)
USAIC	US Army Intelligence Center
USATHMA	United States Army Toxic and Hazardous Material Agency (replaced by USAEC)
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds

Installation Information

Installation Locale: Fort Huachuca (FTHU) is located on approximately 73,000 acres of land in Cochise County, Arizona. It is bisected by Arizona State highway 90. The City of Sierra Vista (population 37,800) is located on the eastern boundary of the installation. Huachuca City (population 2,000) is located on the north eastern boundary of the post.

Installation Mission: Current missions include the U.S. Army Intelligence Center (USAIC) and their 111th Military Intelligence Brigade's training mission; and the headquarters of the Network Enterprise Technology Command (NETCOM) with their 11th Signal Brigade. Electronics Testing missions are conducted by the Joint Interoperability Test Command, the Electronic Proving Ground and other testing organizations. In 2003, Fort Huachuca Garrison transferred from U.S. Army Training and Doctrine Command (TRADOC) and began operations under the Installation Management Agency.

Lead Organization:

Installation Management Agency, South/Hawaii Branch

Lead Executing Agencies:

Fort Huachuca Environment and Natural Resources Division of the Directorate of Public Works

Regulatory Participation:

Federal: U.S. Environmental Protection Agency, Region IX

State: Arizona Department of Environmental Quality

NPL Status: Not on NPL

Installation RAB/TRC/TAPP Status: No RAB/TRC/TAPP exists at Fort Huachuca

Installation Program Summaries:

IRP

Primary Contaminants of Concern: Pesticide, Heavy Metals, MTBE, Hydrocarbons, Benzene

Affected Media of Concern: Soil, Groundwater

Estimated Date for RIP/RC: 2016

Funding to Date (up to FY05): \$ 8,595,000

Current year funding (FY06): \$ 94,000

Cost-to-Complete (FY07+): \$ 530,000

MMRP

Primary Contaminants of Concern: UXO

Affected Media of Concern: Soil, Groundwater

Estimated Date for RC: 2015+

Funding to Date (up to FY05): \$552,000

Current year funding (FY06): \$35,000

Cost-to-Complete (2007+): \$59,682,000

BRAC

There are no BRAC sites at Fort Huachuca

Cleanup Program Summary

Installation Historic Activity: Fort Huachuca was founded in the 1880's as part of the western expansion. It operated as a cavalry post until the outbreak of World War II, when it became a training base. The fort was inactive briefly in the early 1950's. Following reactivation in 1954, the Fort's primary missions included signal communications and electronics testing. In 1954, the fort was designated as the U.S. Army Electronics Proving Ground. Since that time, additional missions have been added. These include communications testing, Military Intelligence training, and various flight operations from unmanned aerial vehicles to C-130 training. Other major tenants on the installation include the Joint Interoperability Test Command (JITC), the Network Enterprise Technology Command (NETCOM), the US Army Intelligence Center,

In 1990, Fort Huachuca was designated a TRADOC installation and command transferred to the USAIC, which gained additional missions as part of the Base Realignment and Closure initiatives.

The permanent population of service members and dependents is approximately 9,000. Several thousand civilian employees are employed at the installation during the day.

FTHU is not on the National Priority List (NPL). The Compliance Order initially issued to the installation in July of 1991 by the Arizona Department of Environmental Quality (ADEQ) has been dismissed without prejudice. During discussions, the installation agreed to enter into bilateral consent orders for hazardous waste, USTs, and solid waste.

The installation has negotiated consent orders with the State of Arizona for hazardous waste and underground storage tanks. No agreement for solid waste is required since sites in question (mostly petroleum contaminated soil) were remediated. Fort Huachuca shall continue to work with the state in preparing corrective action plans and remediation of the remaining Restoration Management Information System (RMIS) sites on the installation. The new soil clean up standards adopted in December 1997 have resulted in the closure of many RMIS sites. Additional site investigation work may be necessary based on future comments from state regulators.

IRP

- Prior Year Progress: Continued operation of interim remedial actions and long term monitoring.
- Future Plan of Action: Continue groundwater monitoring and air sparging system at FTHU-54A. Continue bioremediation at FTHU-85. Continue soil vapor extraction at FTHU-90. Final Action will include a last 5-Year Review at site FTHU-10 in FY16.

MMRP

- Prior Year Progress: Preliminary Assessment (PA) completed at all sites. SI was funded in FY05 and is underway.
- Future Plan of Action: The installation plans to complete the Supplemental SI and Remedial Investigations/ Feasibility Studies (RI/FS) by 2012 and execute follow on phases/actions as required in the individual site cleanup strategies.

BRAC

There are no BRAC Sites at Fort Huachuca

FORT HUACHUCA

Installation Restoration Program

Total AEDB-R IRP Sites/AEDB-R Sites with RC: 62/57

Different Site Types:

- 13 Contaminated Buildings (FTHU-30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43)
- 2 Disposal Pit/Dry Well (FTHU-44, 51)
- 3 Explosive Ordnance Disposal Area (FTHU-17, 18, 89)
- 1 Fire/Crash Training Area (FTHU-52)
- 8 Landfill (FTHU-05, 06, 07, 08, 09, 10, 12, 13)
- 1 POL Lines (FTHU-86)
- 1 Soil Contamination After Tank Removal (FTHU-90)
- 10 Spill Area Site (FTHU-55, 64, 66, 67, 68, 69, 72, 73, 74, 75)
- 2 Storage Area (FTHU-01, 54)
- 3 Surface Disposal Area (FTHU-57, 65, 71)
- 10 UST (FTHU-53, 54A, 76, 78, 82, 83, 84, 85, 87, 88)
- 4 Underground Tank Farm (FTHU-77, 79, 80, 81)
- 2 Unexploded Munitions/Ordnance (FTHU-61, 62)
- 1 Waste Lines (FTHU-70)
- 1 Waste Treatment Plant (FTHU-02)

Most Widespread Contaminants of Concern: Pesticides, Benzene, Heavy Metals, Hydrocarbons, MTBE

Media of Concern: Groundwater, Soil

Completed REM/IRA/RA:

RA at FTHU-52, 53, 54A, 57, 71, 72, 83, 85, 90

Total IRP Funding

Prior years (up to FY05):	\$ 8,595,000
Current Year (FY06):	\$ 94,000
Future Requirements (FY07+):	\$ 530,000
Total:	\$ 9,219,000

Duration of IRP

Year of IRP Inception: 1989

Year of IRP RC: 200810

Year of IRP Completion including LTM: 2016

IRP Contamination Assessment

IRP Contamination Assessment Overview

Site investigations and groundwater monitoring were conducted by the US Army Environmental Hygiene Agency (USAEHA), US Army Toxic and Hazardous Materials Agency (USATHAMA, now known as the Army Environmental Center, USAEC), and the US Army Corps of Engineers, Omaha and Sacramento Districts. Additionally, the installation continued investigations and groundwater monitoring through direct contracts. The Fort Huachuca Environmental and Natural Resources Division is responsible for the IRP program.

The Installation Assessment of Fort Huachuca, Report No. 172, was published by USAEC in June 1980. The report identified explosive wastes, herbicides, pesticides, and arsenic as major contaminants of concern on the installation and listed training areas, old landfills and burial sites, demolition/burning grounds, and the Willcox Dry Lake bed as areas with potential contamination.

In 1987, USAEC performed additional site assessments to determine if conditions had changed and if such changes, coupled with interim changes in environmental regulations or mission, had altered the contaminant migration/hazard situation, and published their assessment. The report concluded that soil contamination may exist at the former Fire-Fighter Training Area, the POL Storage Facility-Libby AAF, Military POL Filling Station, PX Service Station, and the 1970 to 1975 era landfill. The report recommended further testing and analysis at these sites. The report also identified potential sites from aerial photographs. Various additional assessments and site investigations were performed in partnership with the US Army Corps of Engineers, Omaha District. Sites included FTHU-10, 17, 18, 51, 52, 53, and 57. In 1993, work was transferred to the Sacramento District who investigated sites FTHU-66 through 84.

The Fort and ADEQ signed a RCRA Consent Agreement (D-10-91) on 23 September 1994. The Consent Agreement (CA) required the fort to remediate sites at the 11th Signal Brigade Motor Pool RMIS Sites FTHU-71 and FTHU-72. These sites were remediated in FY95. The CA also required preparation of a RCRA Closure Plan for the Open Burning/Open Detonation Sites on the fort. The plan was approved by ADEQ and work progresses. The OB/OD sites FTHU-17, 18, and 89 are no longer IRP eligible, as DERA funding is not being used. No further action is required with the IRP.

An Underground Storage Tank (UST) Consent Order (CO) required the installation to prepare Leaking Underground Storage Tank (LUST) Site Characterizations for the following sites; FTHU-78, FTHU-79, FTHU-80, FTHU-81, FTHU-84, FTHU-86, FTHU-87, and FTHU-88. The site investigations for the releases were completed in 1998 and all associated LUST files have been closed by the State. The CO required initiation of corrective action at the following sites; FTHU-54A (PX Service Station), FTHU-85 (Greely Hall Diesel Release), and FTHU-90 (Greely Hall Gasoline Release). An air sparging system was installed in 1994 for remediation of petroleum hydrocarbons and in 1999 Oxygen Release Compounds (ORCs) were released into the groundwater for remediation of Methyl Tertiary Butyl Ether (MTBE) at FTHU-54A. LTM, air sparging, and release of ORCs will continue at FTHU-54A until groundwater cleanup is achieved.

A bio-venting system was installed in 1997 for the diesel release at FTHU-85 and a soil vapor extraction system was installed in 2000 at FTHU-90 for the gasoline release. Remediation at both sites is ongoing. These sites all had historic records indicating that the leaks had occurred prior to 1986.

At FTHU-10, South Range Landfill, groundwater monitoring and reporting to the Arizona Department of Environmental Quality (ADEQ) have been conducted semi-annually since 1999 when a well was installed to monitor the quality of groundwater from the regional aquifer down gradient from the site. The monitoring program has expanded over the years with the installation of three additional groundwater monitoring wells in an attempt to define regional groundwater flow and the extent of groundwater contamination. A fifth well was drilled in 2003 in an attempt to define the boundary between the regional aquifer and the underlying, less permeable, bedrock, however; the borehole was abandoned at a depth of 220' below ground surface after failing to penetrate the boundary and problems advancing the borehole were experienced. Beginning in FY2006, monitoring and reporting will be conducted annually through 2011. A total of 6 wells are being monitored; two shallow wells within the boundary of the landfill and three wells completed in the regional aquifer. A five year review is planned for 2016 after which time it is assumed the site will be closed.

Site FTHU-65, East Range Mine Shaft, was reportedly used for disposal of trash and garbage, petroleum products (sometimes burned), small aircraft/drone bodies and UXO. During the remedial investigation phase completed in 1992, three monitoring wells were installed and the wells were monitored annually through 2004. No contaminants above action levels were detected in samples from the wells. A cap was installed in November 2000 to prevent surface water infiltration into the shaft. In March 2004, a Decision Document was completed. The Decision Document requires annual inspections and maintenance (if necessary) of the cap and perimeter fence. The Decision Document also requires a five year review be conducted in 2009 to include sampling and analysis of groundwater from the monitoring wells.

In March 1999, ADEQ submitted a review of Fort Huachuca's Site Summary Report. The following sites required no further action by ADEQ; FTHU-41, 75, 64, 68, 73, and 74. The following sites required further action by ADEQ; FTHU-10, 52, 65, 66, 69, and 70. In April 2000, a different ADEQ reviewer submitted another review of the same Fort Huachuca Site Summary Report. The following sites required no further action by ADEQ; FTHU-41, 75, 64, 68, 69, 70, and 74. To close these sites ADEQ requested that Fort Huachuca prepare a decision document. The following sites required further action by ADEQ; FTHU-10, 52, 65, 66, and 73. Not addressed was site FTHU-67.

A decision document was submitted to ADEQ for official closure of the 'no further action sites'. A letter from the ADEQ dated December 15, 2000, FPU 057, notified the installation that sites FTHU-41, 75, 64, 68, 69, 70, and 74 were officially closed as no further action (NFA) sites. The state based this decision on a review of the "No Further Action Decision Document" dated August 18, 2000, signed by Fort Huachuca and ADEQ representatives.

Additional sampling was conducted in 2000 at the Golf Course Pesticide Mix Area, FTHU-73 and at the Vehicle Paint Booth Site, FTHU-66. The results of the site investigations showed no detectable arsenic at FTHU-73 and concentrations below the remediation limit at FTHU-66.

Also in 2000, the installation conducted soil sampling at the LAAF Fire Fighting Training Area, FTHU-52, to adequately define the vertical and horizontal extent of contamination. In October 2001 soil sampling and minor soil remediation (removal) was conducted. In January 2002, a "No Further Action Decision Document" was submitted to the state requesting closure of sites FTHU-52, 66, 67, and 73. A letter from ADEQ, FPU 02-104, dated March 14, 2002, notified the installation that the four sites were officially closed out as NFA sites.

IRP Cleanup Exit Strategy

Of the five remaining sites at the Fort, 3 are in remediation and 2 are in long term management. The strategy is to move the RA(O) sites to LTM as rapidly as the technology allows and is economically feasible, and to exit the long term management phase in a way that satisfies Arizona regulators and fulfills the spirit and intent of applicable laws, at the least cost to the Army.

1980

- US Army Toxic and Hazardous Materials Agency (USATHAMA), APG, MD; Installation Assessment of Fort Huachuca, Report No. 172, Chemical Systems Laboratory (CSL)
- US Army Toxic and Hazardous Materials Agency (USATHAMA), APG, MD, Installation Files for Ft. Huachuca
- US Army Environmental Hygiene Agency (USAEHA) APG, MD; Radiation Protection Survey No. 28-43-0024-80, US Army Medical Department/Dental Activity

1981

- US Army Environmental Hygiene Agency (USAEHA) APG, MD; Pesticide Special Investigation No. 20-44-0571-81, Analysis of Transformer Fluid Samples for Polychlorinated Biphenyls (PCBs), Ft. Huachuca
- US Army Environmental Hygiene Agency (USAEHA) APG, MD; Potable/Recreational Water Quality Survey No. 31-66-0181 and Wastewater Engineering Survey No. 32-66-0182-81, Ft. Huachuca and Aurora, CO
- US Army Environmental Hygiene Agency (USAEHA) Aurora, CO; Pesticide Resistance Assessment No. 18-660572-81, Insecticide Susceptibility/Resistance Testing of German Cockroaches from Ft. Huachuca

1982

- US Army Environmental Hygiene Agency (USAEHA) APG, MD; Nonionizing Radiation Protection Special Study No. 24-42-0715-82 AN/TSC-86 Satellite Terminal
- US Army Environmental Hygiene Agency (USAEHA) APG, MD; Nonionizing Radiation Protection Special Study No. 24-42-0737-82, 20 Mhz-1 Ghz Radiation Test Van, US Army Intelligence and Security Board, Ft. Huachuca

1983

- US Army Environmental Hygiene Agency (USAEHA) APG, MD; Radiation Protection Survey No. 28-43-00327-83, US Army Medical Department/Dental Activity
- US Army Environmental Hygiene Agency (USAEHA) Aurora, CO; Integrated Pest Management Assessment No. 18-660554-83, Cockroach and House Fly Control

1984

- US Army Environmental Hygiene Agency (USAEHA) APG, MD; Radiation Protection Survey No. 28-43-0407-84, US Army Medical Department Activity/Dental Activity,
- US Army Environmental Hygiene Agency (USAEHA) APG, MD; Radiation Protection Survey No. 28-43-0905-84, US Army Medical Department Activity/Dental Activity
- US Army Environmental Hygiene Agency (USAEHA) Aurora, CO; Pest Resistance Laboratory Study No. 16-66-0542-84, Insecticide Susceptibility/Resistance Testing of German Cockroaches from Ft. Huachuca, AZ

1986

- US Environmental Photographic Interpretation Center (EPIC), Warrenton, VA; Installation Assessment Relook Program Working Document, Ft. Huachuca Army Reservation, Cochise County, AZ TS-PIC-85X

1989

- US Army Environmental Hygiene Agency (USAEHA) APG, MD; Environmental Program Review No. 37-26-7157-90, Ft. Huachuca, AZ
- US Army Environmental Hygiene Agency, APG, MD; Environmental Program Review No. 37-26-7157-90, Ft. Huachuca, AZ
- Groundwater Quality Survey No. 38-26-8875-89 potential Groundwater Contamination Sites, Ft. Huachuca, March

1991

- Kleinfelder, Inc. Ft. Huachuca; UST Site Investigation, Post Exchange Gas Station, March
- Kleinfelder, Inc. Ft. Huachuca; Report on Removal of an Underground Storage Tank at Greely Hall, Ft. Huachuca Army Post, June

1992

- James M. Montgomery (JMM) Consulting Engineers, Inc.; Remedial Investigation Report UST Site: Military POL Filling Station, PX Service Station, May
- JMM; Final Remedial Investigation Report UST Site: Military POL Filling Station, PX Service Station, May
- JMM; Tank Trails Dump Sites Remedial Investigation Report, May
- JMM; RCRA Facilities Investigation Report: Libby Army Airfield (LAAF) Fire Fighting Training Area, LAAF Aircraft Wash Rack Area, LAAF POL Storage Facility, May
- JMM; Final RCRA Facilities Investigation Report: LAAF Fire Fighting Training Area, LAAF Aircraft Wash Rack Area, LAAF POL Storage Facility, May
- JMM; Remedial Investigation Report UST Site: Military POL Filling Station, PX Service Station, May
- Hydro Geo Chemical, Inc.; Subsurface Investigation Building 30126, Underground Storage Tank Excavation, Ft. Huachuca, May
- UST Management; Permanent Closure of Four 10,000 Gallon USTs Initial Site Characterization, AAFES Service Station, Smith Avenue & Whitside Road, Ft. Huachuca, June

1993

- Western Technologies Inc.; Limited Excavation and Disposal of Petroleum Contaminated Soil Miller & Associates, Inc., Ft. Huachuca AAFES Fuel Facility, January
- International Technology Corporation; Draft Interim Report, PX Service Station Interim Response Action, Ft. Huachuca, August
- International Technology Corporation; Draft Interim Report, PX Service Station Interim Response Action, Ft. Huachuca, August

- Environmental Engineering Consultants; Report on Subsurface Soil Assessment of JP-4 Fuel Contamination From an Underground Storage Tank System at Libby Army Airfield; USAG Ft. Huachuca, August

1994

- Environmental Engineering Consultants; Draft Report on the Remediation of Petroleum Impacted Soil From Various Sites at USAG Ft. Huachuca, February
- Environmental Engineering Consultants; Report on Assessment of Petroleum Hydrocarbon Contamination at Greely Hall, Ft. Huachuca, February
- Environmental Engineering Consultants; Report on Assessment of Soil and Perched Groundwater at Bldg 31210, AAFES PX Service Station, February
- Montgomery Watson, Inc.; Final Preliminary Assessment/Site Investigation Report Miscellaneous Non-UST Sites, April
- Montgomery Watson, Inc.; Final Preliminary Assessment/Site Investigation Report Miscellaneous UST Removal Sites, April
- Basin & Range Hydrogeologists, Inc.; Project Work Plan Soil Sampling and Analysis Investigation Open Burning/Open Detonation Units South and East Ranges, May
- Environmental Engineering Consultants; Final Report: Assessment of Subsurface Petroleum Hydrocarbon Impacted Soils at Former Waste Soil Piles (AAFES, Brainard, Radar Station, and Defueling Point), Ft. Huachuca, June
- International Technology Corporation; Air Sparging System Installation, PX Service Station, Ft. Huachuca, Volumes I & II, October
- International Technology Corporation; Air Sparging System Installation, PX Service Station, Ft. Huachuca, October
- Environmental Engineering Consultants; Report on the Remediation of Petroleum Hydrocarbon Impacted Soil From Various Sites at USAG Ft. Huachuca, October
- Environmental Engineering Consultants; Report on Removal of One 2,000 Gallon Waste Oil Underground Storage Tank, and Subsequent Soil Assessment and Corrective Action at the Auto Craft Shop (Building 71810) Ft. Huachuca, December

1995

- Basin & Range Hydrogeologists, Inc.; Soil Sampling and Analysis Investigation Open Burning/Open Detonation Units South and East Ranges, Ft. Huachuca, February
- International Technology Corporation; Site N12 Site Characterization Report (TMP Steam Cleaning Facility), Ft. Huachuca, August
- International Technology Corporation; UST Site 6 Site Characterization Report, August
- International Technology Corporation; UST Site 8 Site Characterization Report, August
- International Technology Corporation; Site N6 Site Characterization Report, August
- Basin & Range Hydrogeologists, Inc.; Project Work Plan Amendment Soil Sampling and Analysis Investigation Open Burning/Open Detonation Units South East Ranges, August

- International Technology Corporation; UST Site 9 Site Characterization Report, August
- International Technology Corporation; UST Site 7 Site Characterization Report, August
- Engineering and Environmental Consultants, Inc.; Site Characterization Report AAFES Service Station Dispenser Release, Ft. Huachuca Army Post, ADEQ LUST File # 4715.2289, October
- Engineering and Environmental Consultants, Inc.; Report on Excavation, Sampling and Thermal Treatment of Petroleum Impacted Soil at 11th Signal Brigade USAG Ft. Huachuca, Spill Site #13, ADEQ Consent Order #D10-91, December
- Engineering and Environmental Consultants, Inc.; Corrective Action Program Plan Deliver Order #27, ADEQ LUST File #0299.03, December

1996

- Engineering and Environmental Consultants, Inc.; Site Characterization Report Building # 61801, Greely Hall, ADEQ LUST File 0299.03 Ft. Huachuca Army Post, ADEQ LUST File # 4715.2289, January
- International Technology Corporation; Leachate Report for South Range Landfill, February
- Engineering and Environmental Consultants, Inc.; Site Characterization Report CEWI Motor Pool, Bldg 30113, Ft. Huachuca Army Post, ADEQ LUST File # 4178.01, March
- Engineering and Environmental Consultants, Inc.; Report on Soil Boring at East Range Open Burning Open Detonation Site, East Range of Ft. Huachuca, March
- Basin and Range Hydrogeologists, Inc.; Proposed Phase 2 Investigation program Open Burning/ Open Detonation Units West Range and East Range (Sites 1,2,3), August

1997

- Basin and Range Hydrogeologists, Inc.; Soil Sampling and Analysis Investigation Open Burning/ Open Detonation Units South, East, and West Ranges, Ft. Huachuca, June
- Environmental Engineering Consultants; Site Characterization Report UST Spill Site #8, Contingency Tank, Ft. Huachuca, ADEQ LUST file #0155.15, June
- Environmental Engineering Consultants; Report Request for Closure Ft. Huachuca's South Range Asbestos Landfill, USAG Ft. Huachuca, June
- Environmental Engineering Consultants; Report on Site Characterization Investigation at Ft. Huachuca AAFES PX Former Service Station, Bldg. #31209, ADEQ LUST file #s 0155.45, 0155.46, 0155.47, June
- Environmental Engineering Consultants; Report on Site Characterization Investigation at Ft. Huachuca AAFES PX Former Service Station, Bldg. #31209, ADEQ LUST file #s 0155.45, 0155.46, 0155.47, June
- Environmental Engineering Consultants; Report on Initial Site Characterization Investigation at Antenna Test Facility Bldg 15680, USAG Ft. Huachuca, December

1998

- Environmental Engineering Consultants; Report on Groundwater Investigation at Former Location of Gasoline Product Line, AAFES PX Service Station Bldg # 31210 & 31209, Ft. Huachuca, July
- Basin and Range Hydrogeologists, Inc.; Closure Plan Open Burning/Open Detonation Units South, East and West Ranges, Ft. Huachuca, September
- Environmental Engineering Consultants; Groundwater Monitoring Quarterly Report, AAFES Service Station, Air Sparging System Area, USAG Ft. Huachuca, September
- Environmental Engineering Consultants; Remedial Action Plan at Bldg 61801 Greely Hall, USAG Ft. Huachuca, ADEQ LUST file #0155.06, October
- Environmental Engineering Consultants; Corrective Action Plan Amendment AAFES PX Service Station USAG Ft. Huachuca, October
- Environmental Engineering Consultants; Report on Demolition of Concrete Pads, the Removal of Three Hydraulic Lifts and one Oil Water Separator at the Former AAFES PX Service Station, Bldg 31210, Ft. Huachuca, November
- Environmental Engineering Consultants; Report on Site Characterization Investigation Libby Army Airfield USAG Ft. Huachuca, November
- Environmental Engineering Consultants; Report on Remediation of Petroleum Contaminated Soil at the Angenna Test Facility Bldg 15680, December
- Environmental Engineering Consultants; Groundwater Monitoring Report, East Range Mine Shaft USAG Ft. Huachuca, December
- Environmental Engineering Consultants; Groundwater Monitoring Quarterly Report, AAFES Service Station, USAG Ft. Huachuca, ADEQ LUST file 0155.01, December
- Environmental Engineering Consultants; Report on Remediation of Petroleum Contaminated Soil at the Angenna Test Facility Bldg 15680, December
- Environmental Engineering Consultants; Groundwater Monitoring Report, East Range Mine Shaft USAG Ft. Huachuca, December
- Environmental Engineering Consultants; Groundwater Monitoring Quarterly Report, AAFES Service Station, USAG Ft. Huachuca, ADEQ LUST file 0155.01, December
- Environmental Engineering Consultants; Leachate Monitoring Quarterly Report, South Range Landfill USAG Ft. Huachuca, December

1999

- Environmental Engineering Consultants; Groundwater Monitoring Quarterly Report, AAFES Service Station, USAG Ft. Huachuca, September
- Environmental Engineering Consultants; Soil Vapor Extraction Pilot Test; Greely Hall, USAG Ft. Huachuca, September
- Environmental Engineering Consultants; Report on Installation and Sampling of Groundwater Monitoring Well; South Range Landfill, USAG Ft. Huachuca, October

2000

- Environmental Engineering Consultants; Report on Amendment of Corrective Action Plan AAFES PX Service Station USAG, March
- Environmental Engineering Consultants; Groundwater Monitoring Quarterly Report, AAFES Service Station, USAG Ft. Huachuca, March

- Environmental Engineering Consultants; Groundwater Monitoring Quarterly Report, East Range Mine Shaft, USAG Ft. Huachuca, March
- Environmental Engineering Consultants; Leachate and Groundwater Monitoring Quarterly Report, South Range Landfill, USAG, March
- Environmental Engineering Consultants; Report on Respiration Study Greely Hall Bldg 61801, Ft. Huachuca Army Post, April
- Environmental Engineering Consultants; Leachate and Groundwater Monitoring Quarterly Report, South Range Landfill, USAG Ft. Huachuca, July
- Environmental Engineering Consultants; Fort Huachuca Installation Restoration Program No Further Action Decision Document to Support Closure of Sties FTHU-64, FTHU-68, FTHU-69, FTHU-70, FTHU-74, and FTHU-41 & 75, USAG Ft. Huachuca, August
- Environmental Engineering Consultants; Air Quality Monitoring Report for Soil Vapor Extraction System, Bldg 61801 (Greely Hall), USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, October
- Environmental Engineering Consultants; Groundwater Monitoring Quarterly Report, East Range Mine Shaft, USAG Ft. Huachuca, October
- Environmental Engineering Consultants; Groundwater Monitoring Quarterly Report, AAFES Service Station, USAG Ft. Huachuca, October
- Environmental Engineering Consultants; Leachate and Groundwater Monitoring Quarterly Report, Site FTHU-10, South Range Landfill, USAG Ft. Huachuca. October
- Environmental Engineering Consultants; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, December
- Environmental Engineering Consultants; Report on Cap Installation, East Range Mine Shaft, USAG Ft. Huachuca, December

2001

- Environmental Engineering Consultants; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, January
- Environmental Engineering Consultants; Groundwater Monitoring Quarterly Report, East Range Mine Shaft, USAG Ft. Huachuca, January
- Environmental Engineering Consultants; Groundwater Monitoring Quarterly Report, AAFES Service Station, USAG Ft. Huachuca, January
- Environmental Engineering Consultants; Leachate and Groundwater Monitoring Quarterly Report, Site FTHU-10, South Range Landfill, USAG Ft. Huachuca, February
- Environmental Engineering Consultants; Report on Installation of Groundwater Monitoring Wells, Site FTHU 10, South Range Landfill, USAG Ft. Huachuca, May
- Environmental Engineering Consultants; Leachate and Groundwater Monitoring Quarterly Report, Site FTHU-10, South Range Landfill, USAG Ft. Huachuca, May
- Environmental Engineering Consultants; Report on Respiration Study Greely Hall Bldg 61801, Ft. Huachuca Army Post, June

- Environmental Engineering Consultants; Groundwater Monitoring Quarterly Report, AAFES Service Station, USAG Ft. Huachuca, July
- Environmental Engineering Consultants; Groundwater Monitoring Quarterly Report, East Range Mine Shaft, USAG Ft. Huachuca, July
- Environmental Engineering Consultants; Leachate and Groundwater Monitoring Quarterly Report, Site FTHU-10, South Range Landfill, USAG Ft. Huachuca, July
- Environmental Engineering Consultants; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, August
- Environmental Engineering Consultants; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, September
- Environmental Engineering Consultants; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, October
- Environmental Engineering Consultants; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, November
- Environmental Engineering Consultants; Leachate and Groundwater Monitoring Quarterly Report, Site FTHU-10, South Range Landfill, USAG, November
- Environmental Engineering Consultants; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, December

2002

- Engineering and Environmental Consultants, Inc.; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, January
- Engineering and Environmental Consultants, Inc.; Fort Huachuca Installation Restoration Program No Further Action Decision Document to Support Closure of Sties FTHU-52,, FTHU-66, FTHU-67 and FTHU-73, USAG Ft. Huachuca, January
- Engineering and Environmental Consultants, Inc.; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, February
- Engineering and Environmental Consultants, Inc.; Groundwater Monitoring Quarterly Report, AAFES Service Station, USAG Ft. Huachuca, February
- Environmental Engineering Consultants, Inc.; Groundwater Monitoring Quarterly Report, East Range Mine Shaft, USAG Ft. Huachuca, March
- Engineering and Environmental Consultants, Inc.; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, March
- Engineering and Environmental Consultants, Inc.; Leachate and Groundwater Monitoring Quarterly Report, Site FTHU-10, South Range Landfill, USAG Ft. Huachuca, March

- Engineering and Environmental Consultants, Inc.; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, April
- Engineering and Environmental Consultants, Inc.; Installation of Groundwater Monitoring Well, SRLF MW-4 at Site FTHU-10, South Range Landfill, USAG Ft. Huachuca, May
- Engineering and Environmental Consultants, Inc.; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, May
- Engineering and Environmental Consultants, Inc.; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall) USAG Ft. Huachuca, ADEQ Air Quality Permit 1001046, June
- Engineering and Environmental Consultants, Inc.; Report on Respiration Study Bioremediation of Diesel Release at Bldg 61801 (Greely Hall) USAG Ft. Huachuca, June
- Engineering and Environmental Consultants, Inc.; Leachate and Groundwater Monitoring Quarterly Report, Site FTHU-10, South Range Landfill, USAG Ft. Huachuca, June
- Engineering and Environmental Consultants, Inc.; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, June
- Engineering and Environmental Consultants, Inc.; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, August
- Engineering and Environmental Consultants, Inc.; Groundwater Monitoring Quarterly Report, AAFES Service Station, USAG Ft. Huachuca, September
- Engineering and Environmental Consultants, Inc.; Groundwater Monitoring Quarterly Report, East Range Mine Shaft, USAG Ft. Huachuca, September
- Engineering and Environmental Consultants, Inc.; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, October
- Engineering and Environmental Consultants, Inc.; Leachate and Groundwater Monitoring Quarterly Report, Site FTHU-10, South Range Landfill, USAG Ft. Huachuca, October
- Engineering and Environmental Consultants, Inc.; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, November
- Engineering and Environmental Consultants, Inc.; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, December
- Engineering and Environmental Consultants, Inc.; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, December

2003

- Engineering and Environmental Consultants, Inc; Leachate and Groundwater Monitoring Quarterly Report, Site FTHU-10, South Range Landfill, USAG Ft. Huachuca, January
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, January
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, February
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, March
- Engineering and Environmental Consultants, Inc; Confirmation Soil Sampling Report for Bioremediation Project at Bldg 61801 (Greely Hall) USAG Ft. Huachuca, March
- Engineering and Environmental Consultants, Inc; Confirmation Soil Sampling Report for Soil Vapor Extraction System Project at Bldg 61801 (Greely Hall) USAG, March
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, April
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, May
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, June
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, July
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, August
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, September
- Engineering and Environmental Consultants, Inc.; Groundwater Monitoring Report, AAFES Service Station, USAG Fort Huachuca, September
- Engineering and Environmental Consultants, Inc.; Groundwater Monitoring Report, East Range Mine Shaft, USAG Fort Huachuca, September
- Engineering and Environmental Consultants, Inc; Leachate and Groundwater Monitoring Quarterly Report, Site FTHU-10, South Range Landfill, USAG Ft. Huachuca, October

- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, October
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, November
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, December
- Engineering and Environmental Consultants, Inc; Leachate and Groundwater Monitoring Semi-Annual Report, Site FTHU-10, South Range Landfill, USAG, December
- Engineering and Environmental Consultants, Inc; Well Installation and Abandonment Report: Pantano Interface Monitoring Well MW-5, South Range Landfill, Ft. Huachuca Army Garrison, December
- Engineering and Environmental Consultants, Inc; Groundwater Monitoring Report, AAFES Service Station, USAG Fort Huachuca, December

2004

- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, January
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, February
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, March
- Engineering and Environmental Consultants, Inc; Groundwater Sampling Report, East Range Mine Shaft, USAG Ft. Huachuca, March
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, March
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, April
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, May
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, June
- Engineering and Environmental Consultants, Inc; Groundwater Monitoring Report, AAFES Service Station, USAG Fort Huachuca, June

- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, July
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, August
- Engineering and Environmental Consultants, Inc; Fort Huachuca IRP Decision Document in Support of the Change of Status for Site FTHU-65, USAG Fort Huachuca , August
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, September
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, October
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, November
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, December

2005

- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, January
- Engineering and Environmental Consultants, Inc; Groundwater Sampling Report, East Range Mine Shaft, USAG Ft. Huachuca, January
- Engineering and Environmental Consultants, Inc; Leachate and Groundwater Monitoring Semi-Annual Report, Site FTHU-10, South Range Landfill, USAG, January
- Engineering and Environmental Consultants, Inc; Groundwater Monitoring Report, AAFES Service Station, USAG Fort Huachuca, January
- Engineering and Environmental Consultants, Inc; Monthly Air Quality Monitoring Report, Soil Vapor Extraction System, Bldg 61801 (Greely Hall), ADEQ Air Quality Permit 1001046, USAG Ft. Huachuca, February

FORT HUACHUCA

Installation Restoration Program Site Descriptions

FTHU-10 (PAGE 1 OF 2)

SOUTH RANGE LF (OLD LF 6 AND 7)

SITE DESCRIPTION

FTHU-10 is located approximately two miles southeast of the main Post facilities and covers an area approximately 100 acres in size. The site was reportedly used intermittently from 1940 to 1975 for the disposal of domestic trash and unknown quantities of herbicides, pesticides, and sodium arsenite. The preferred method of disposal was in trenches excavated for this purpose and subsequently backfilled with native material. The landfill has been out of service since 1975 when it was capped with native material. Native vegetation (grass, agave cactus, and mesquite trees) grows on the cap.

A preliminary assessment/site investigation (PA/SI) was completed in January 1993. During this investigation, three soil borings were drilled outside the landfill boundary to a maximum

depth of 100' bgs and two borings were drilled within the landfill boundary. Saturated conditions were encountered approximately 9-feet bgs but these conditions did not extend to deeper intervals. This perched groundwater was interpreted to be pooling of infiltrated surface water at the base of burial trenches and was referred to as leachate in the PA/SI report. The regional groundwater table was not encountered during the PA/SI phase. Analyses were performed on the following samples collected during the PA/SI:

- 8 soil samples from the five soil borings
- 8 surface sediment samples from outside landfill boundary
- 4 surface water samples from adjacent ephemeral channel
- 2 groundwater samples from monitoring wells

Soil samples were analyzed for VOCs, BNAs, organochlorine pesticide/PCBs, organophosphorus pesticides, and priority pollutant metals. Groundwater, surface sediment, and surface water samples were analyzed for compounds listed above plus herbicides. No detectable levels of VOCs, organophosphorus pesticides were encountered in surface sediment samples. Several BNA compounds were detected in sediment samples but at concentrations well below ADEQ health based guidance levels (HBGLs). Pesticides concentrations below HBGLs were detected in several sediment samples. Except for beryllium, priority pollutant metals were detected at concentrations well below HBGLs in surface sediment samples. No detectable levels of VOCs, organophosphorus pesticides, organochlorine/PCBs, or herbicides were encountered in surface water samples. Dissolved metals including lead and zinc were detected in surface water samples but at concentrations well below HBGLs. Groundwater samples contained no detectable levels of organophosphorus pesticides or herbicides.

STATUS

REGULATORY DRIVER: CERCLA

RRSE RATING: Low

CONTAMINANTS OF CONCERN:
Pesticide, Heavy Metals

MEDIA OF CONCERN:
Groundwater

Phases	Start	End
PA/SI	199203	199404
SI	199203	199404
RI/FS	199203	200105
LTM	200106	201609

RC DATE: 200105

FTHU-10 (PAGE 2 OF 2)

SOUTH RANGE LF (OLD LF 6 AND 7)

SITE DESCRIPTION

VOCs (ethylbenzene), BNAs (naphthalene), pesticides (p,p'DDD; p,p'DDT, dieldrin), and total metals including nickel, cadmium, mercury, arsenic, lead, chromium, copper, and zinc were detected in groundwater samples at concentrations less than HBGLs.

Groundwater monitoring and reporting have been conducted semi-annually since 1999 when a well was installed to monitor the quality of groundwater from the regional aquifer down gradient from the site. The monitoring program has expanded over the years with the installation of three additional groundwater monitoring wells in an attempt to define regional groundwater flow and the extent of groundwater contamination. At the request of ADEQ in FY03, a fifth well was drilled in 2003 in an attempt to define the boundary between the regional aquifer and the underlying, less permeable, bedrock, however; the borehole was abandoned at a depth of 220' below ground surface after failing to penetrate the boundary and problems advancing the borehole were experienced.

Analyses of groundwater samples collected since 1999 have resulted in the periodic detection of various metals and pesticides at concentrations above HBGLs or AWQs, however; analytical results for the majority of samples either reveal no contamination or contamination at levels less than HBGLs or AWQs.

CLEANUP STRATEGY

Sample five wells semi-annually through 2006, then annually 2007-2011. Re-evaluate in 2011 to determine if further annual monitoring is required. It is likely a 5-year review will be required in FY16 after which the site will be closed pending results of the five year review.

FTHU-54A PX GAS STATION

SITE DESCRIPTION

FTHU-54A is located near the northwest corner of the main post facilities. The site is approximately two acres in size and was formerly an AAFES service station with underground fuel tanks and gasoline-dispensing facilities. UST systems that were removed from the site included seven 10,000 gallon steel USTs and four 10,000 fiberglass USTs used for gasoline storage. Fuel loss from some of the USTs was first reported in late 1982. Subsequently, tank removals began in 1983, and installations of new tanks occurred during the period of 1983 through 1996. The facility was closed in mid-1996. All site USTs and associated lines were removed in 1997. The surrounding soil was excavated and thermally treated by the COE.

The major area of concern is approximately 1,000 gallons of unleaded gasoline which leaked from a UST. Elevated levels of MTBE have been encountered at site. The highest level of MTBE detected was 18,700 ug/l. The ADEQ has assigned LUST files to these releases. Of special concern is a shallow, perched water table located at a depth of approximately 10 to 14 feet below the ground surface. An air sparging system was installed in May/June 1994 to remediate contaminated perched ground water. Remediation goals identified in the January 1996 Corrective Action Plan (CAP) for this site are to reduce the concentration of benzene, toluene, ethyl-benzene, and total xylenes in groundwater to less than State aquifer water quality standards. In October 1998, the CAP was amended to include the introduction of Oxygen Release Compounds (ORCs) to the subsurface, which was done in November 1999, to improve degradation of MTBE and benzene although degradation of MTBE was not identified as a remediation goal in the original CAP nor is there an aquifer water quality standard for this compound. Sampling conducted in December 2005 indicates that CAP goals have been met. MTBE was detected in four monitoring wells at a maximum concentration of 380 ug/l. ADEQ's interim guidance on the cleanup of MTBE in groundwater establishes a remediation level of 94 ug/l when an existing drinking water receptor is not affected.

CLEANUP STRATEGY

Continue operation of air sparging system and semi-annual groundwater monitoring until MTBE in groundwater is reduced to 94 ug/l in accordance with ADEQ's interim guidance on the cleanup of MTBE in groundwater.

STATUS

REGULATORY DRIVER: RCRC
Subtitle I

RRSE RATING: High

CONTAMINANTS OF CONCERN:
MTBE

MEDIA OF CONCERN:
Groundwater

Phase	Start	End
ISC	199003.....	199205
INV	199003.....	199205
CAP	199207	199302
IMP(C).....	199401	199405
IMP(O).....	199406.....	200809

RIP DATE: 199406

RC DATE: 200809

FTHU-65 EAST RANGE MINE SHAFT

SITE DESCRIPTION

FTHU-65 is located on the remote East Range. Information concerning the shaft indicated that it had been used for disposal of a variety of wastes including refuse, petroleum products (sometimes burned), small aircraft/drone bodies and possibly UXO since the 1940's. In August 1989 the site included the remains of a small earthen berm partially surrounding a depression in the soil above a vertical mine shaft. By November 1989 a portion of the depression had settled or collapsed. By early February 1990 the Post had re-filled the depression/hole with earth to minimize surface water entry and added a fence around the shaft. The mine shaft is reported to be ~200 feet deep. Groundwater is ~275 feet bgs. The potential for a direct pathway to have existed between possible contaminants and the groundwater was of special concern, especially if surface water entering at the top of the shaft could have provided additional "driving" force. The installation monitored three groundwater wells from 1992-2004 at the site. Groundwater has been sampled for the presence of VOCs, hydrocarbons, metals, and explosives; to date no contaminants above action levels have been encountered in the wells although lead was detected in an upgradient well.

At the request of ADEQ, a cap was installed in November 2000 to prevent surface water from infiltrating into the filled mine shaft.

In March 2004, a Decision Document was completed. The Decision Document requires annual inspections and maintenance (if necessary) of the cap and perimeter fence. The Decision Document also requires a five year review be conducted in 2009 to include sampling and analysis of groundwater from the monitoring wells.

CLEANUP STRATEGY

LUCs (fence and cap maintenance) are being conducted (no funding required) with two 5-year reviews scheduled for FY09 and FY14 (if necessary) that will include sampling and reporting. The site is anticipated to be closed as early as FY10, after completion of the first five year review, or as late as FY15, after the second five-year review.

STATUS

REGULATORY DRIVER: CERCLA

RRSE RATING: Low

CONTAMINANTS OF CONCERN:
Lead

MEDIA OF CONCERN:
Groundwater, Soil

Phase	Start	End
PA	199003.....	199111
SI.....	199003.....	199111
RI.....	199003.....	199111
LTM	199301	201512

RC DATE: 199212

FTHU-85

GREELY HALL UST RELEASE SITE

SITE DESCRIPTION

This site is located at the rear southern service area of Greely Hall Building 61801. Greely Hall was built in 1959 and included fuel storage and dispensing from underground storage tanks located in the rear service area. FTHU-85, is associated with a release of diesel fuel from an underground storage tank that provided fuel to emergency generators. The diesel release was associated with the distribution system connecting the tank to the emergency generators. Although the system piping was known to leak during the period of use, the extent of the leak was confirmed in September 1990. The extent of contamination indicates that the release had been occurring for at least a decade before its discovery. The ADEQ required the installation to perform site investigation on LUST Files 0155.05 and 0155.06. The extent of the impacted soil was less than 95 feet deep and 50 feet wide. The regional groundwater at the site is estimated at approximately 400 feet to 450 feet below the land surface.

The site was characterized and a bio-venting system was installed in 1997 to remediate the site. The diesel release is reacting positively to bioremediation. Initial sampling showed 56,900 ppm total petroleum hydrocarbons (TPH). Two borings were placed and sampled in Jan 2003, and showed 19,700 ppm TPH. The SRLr is 4,100 ppm TPH.

CLEANUP STRATEGY

Bioremediation (Bio-venting) to continue until soil cleanup standards is achieved. It is anticipated cleanup standards will be achieved in 2008 and will include confirmatory soil sampling and system closure.

STATUS

REGULATORY DRIVER: RCRA, Subtitle I

RRSE RATING: Low

CONTAMINANTS OF CONCERN: Hydrocarbons

MEDIA OF CONCERN: Soil

Phase	Start	End
ISC	199403	199411
INV	199412	199506
CAP	199507	199508
IMP(C)	199608	199812
IMP(O)	199608	200809

RIP DATE: 199812

RC DATE: 200809

FTHU-90

GREELY HALL GASOLINE RELEASE

SITE DESCRIPTION

This site is located at the rear southern service area of Greely Hall Building 61801. Greely Hall was built in 1959. A gasoline generator and associated UST were installed in the 1970s to provide emergency power for the communication center. FTHU-90 is associated with a release of gasoline from an underground storage tank that provided fuel to emergency generators. The generator was removed during the 1970s. In 1995, the storage tank was removed, at which time the contaminant plume from years of gasoline spillage from overfilling the generators was discovered. The extent of impacted soil is less than 65 feet deep and less than 70 feet in diameter. In April of 1998, the site was assessed, and 65 ppm of benzene was detected at 30 feet bgs. A Corrective Action Plan was prepared for the gasoline release. In August of 1999, a SVE pilot test was conducted to assist in obtaining an Air Quality Permit from ADEQ. The regional groundwater at the site is estimated at approximately 400 feet to 450 feet below the land surface.

STATUS

REGULATORY DRIVER: RCRA
Subtitle I

RRSE RATING: Low

CONTAMINANTS OF CONCERN:
Benzene

MEDIA OF CONCERN:
Soil

Phase	Start	End
ISC	199506.....	199507
INV	199804.....	199805
CAP.....	199810.....	199906
DES.....	199910.....	199912
IMP(C).....	200001.....	200009
IMP(O).....	200009.....	200809

RIP DATE: 200009

RC DATE: 200810

The SVE system was installed and started on July 31, 2000 at this location to reduce levels of benzene that exceed state soil clean up levels. In January of 2003, soil borings and sampling was conducted. Benzene was detected above the SRLr (0.62ppm) from 20 to 30 feet bgs, with the highest concentration of 22 ppm of benzene at 20 feet bgs. Soil vapor extraction well was grouted from a depth of 60 feet to the 30 foot deep level to facilitate remediation at the depth where contamination concentrations remain above SRLr.

CLEANUP STRATEGY

Soil Vapor Extraction to continue until cleanup is achieved. It is anticipated cleanup standards will be achieved in 2008. Confirmatory soil sampling and anticipated system closure will occur at this time.

IRP No Further Action Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	RC Date
FTHU-01	Radiation Source Storage Bldg. 12508	Study Completed, No Cleanup Required	198006
FTHU-02	Abandoned T, Bldg. 90322 and Sludge Beds	Study Completed, No Cleanup Required	198006
FTHU-05	Landfill 1-1930-1945	Not Eligible for ER,A/BRAC Funding	198804
FTHU-06	Landfill 2- 1945-1950	Not Eligible for ER,A/BRAC Funding	198804
FTHU-07	Landfill 3- 1976-79	Not Eligible for ER,A/BRAC Funding	198804
FTHU-08	Landfill 4 - 1939-75 (A)	Not Eligible for ER,A/BRAC Funding	198804
FTHU-09	Landfill 5- 1939-75 (B)	Not Eligible for ER,A/BRAC Funding	198804
FTHU-12	Landfill 8- 1939-1970	Not Eligible for ER,A/BRAC Funding	198804
FTHU-13	Landfill 9- 1903-39	Not Eligible for ER,A/BRAC Funding	198804
FTHU-17	East Range OB/OD Area	Not Eligible for ER,A/BRAC Funding	200101
FTHU-18	South Range OB/OD Area	Not Eligible for ER,A/BRAC Funding	200101
FTHU-30	Building 72909 Wood Shop	Not Eligible for ER,A/BRAC Funding	198006
FTHU-31	Building 72908 Weld Shop	Not Eligible for ER,A/BRAC Funding	198006
FTHU-32	Building 72908 Machine and Spray Paint Shop	Not Eligible for ER,A/BRAC Funding	198006
FTHU-33	Munitions Repair Bldg 73902	Not Eligible for ER,A/BRAC Funding	198006
FTHU-34	Building 73903 Painting	Study Completed, No Cleanup Required	198006
FTHU-36	Building 75902 Tire Repair	Other	198006
FTHU-37	Building 75901 Motor Pool	Study Completed, No Cleanup Required	198006
FTHU-38	Building 51419 Vehicle Maintenance	All Required Cleanup (s) Completed	198006
FTHU-39	Building 30013 Motor Pool	All Required Cleanup (s) Completed	198006
FTHU-40	Building 30115 Motor Pool LUST File 0155.13	Study Completed, No Cleanup Required	198006
FTHU-41	Building 75801 Motor Pool	Technical Document to Support the No Further Action Declaration signed on 11/27/2000; no contaminants above ADEQ SRLs	198006
FTHU-42	Building 74902 Vehicle Paint Shop	Study Completed, No Cleanup Required	198006
FTHU-43	Bldg 91110 Aviation Maintenance	Other	198006
FTHU-44	Building 90201 Post Laundry	Other	198006

IRP No Further Action Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	RC Date
FTHU-51	POL Storage, Libby AAF LUST File	Study Completed, No Cleanup Required	199908
FTHU-52	Fire Fighting Training Area, Libby AAF	Technical Document to Support the No Further Action Declaration signed on 3/13/2002; no contaminants above ADEQ SRLs	200203
FTHU-53	Military Gas Station LUST Field 0155.05	Study Completed, No Cleanup Required	199709
FTHU-54	Post Electrical Shop	Other	198006
FTHU-55	Building 73904 Battery Shop	All Required Cleanup(s) Completed	198804
FTHU-57	Aircraft Wash Rack, Libby AAF	All Required Cleanup(s) Completed	199610
FTHU-61	Impact Area-East Range	Other	198006
FTHU-62	Impact Area- South Range	Other	198006
FTHU-64	Tank Trails Dump Site (6)	Technical Document to Support the No Further Action Declaration signed on 11/27/2000; no contaminants above ADEQ SRLs	199706
FTHU-66	Vehicle Paint Booth Bldg 72907	Technical Document to Support the No Further Action Declaration signed on 3/13/2002; no contaminants above ADEQ SRLs	200108
FTHU-67	TMP Drum Storage Area	Technical Document to Support the No Further Action Declaration signed on 3/13/2002; no contaminants above ADEQ SRLs	200203
FTHU-68	TMP Auto Wash Rck Bldg 76925	Technical Document to Support the No Further Action Declaration signed on 11/27/2000; no contaminants above ADEQ SRLs	199506
FTHU-69	TMP Aboveground Waste Tank Site	Technical Document to Support the No Further Action Declaration signed on 11/27/2000; no contaminants above ADEQ SRLs	200012
FTHU-70	TMP Steam Cleaning Facility	Technical Document to Support the No Further Action Declaration signed on 11/27/2000; no contaminants above ADEQ SRLs	200012
FTHU-71	Old 11th Signal BDE Motor PI Wash Rack Discharge Area	All Required Cleanup(s) Completed	199505
FTHU-72	11th Signal Motor Pool Spill	All Required Cleanup(s) Completed	199511

IRP No Further Action Sites Summary

AEDBR #	Site Title	Documentation/Reason for NFA	RC Date
FTHU-73	Golf Course Pest Mix Area	Technical Document to Support the No Further Action Declaration signed on 3/13/2002; no contaminants above ADEQ SRLs	200203
FTHU-74	Bldg 35033 Pest Mix Area	Technical Document to Support the No Further Action Declaration signed on 11/27/2000; no contaminants above ADEQ SRLs	199308
FTHU-75	AMSA Wash Rack Discharge	Technical Document to Support the No Further Action Declaration signed on 11/27/2000; no contaminants above ADEQ SRLs	199908
FTHU-76	UST Site 4715-0980 Old Boiler Site #1	Case Closure Letter from ADEQ dated 30 September 1996 (LUST File #4715.0980)	199607
FTHU-77	UST Site 4715-1192 Site #2 Clarkson St	Case Closure Letter from ADEQ dated 23 January 1997 (LUST File #4715.1192)	199609
FTHU-78	UST Site 4715-1185 CEWI Motor Pool	Case Closure Letter from ADEQ dated 30 September 1996 (LUST File #4715.1185)	199802
FTHU-79	UST Site 4715-0716 (11th SB) 0155.08	Study Completed, No Cleanup Required	199902
FTHU-80	UST Site 4715-1191 UST Removal Site #6	Study Completed, No Cleanup Required	199712
FTHU-81	UST Site 4715-1190 Site 7 Old Fuel Pit	Study Completed, No Cleanup Required	199809
FTHU-82	UST Site 4715-1189 Site 8 Diesel UST	Study Completed, No Cleanup Required	199710
FTHU-83	UST Site 4715-1188 Hospital UST Burn	Study Completed, No Cleanup Required	199302
FTHU-84	UST Site 4715-1187 Site 10 EPG 0155.13	Study Completed, No Cleanup Required	199708
FTHU-86	Abandoned Pipeline Irwin St Release Site	All Required Cleanup(s) Completed	199812
FTHU-87	Old Autocraft Shop Building 30126 Release	Study Completed, No Cleanup Required	199601
FTHU-88	Building 30113 Waste Oil Tank LUST #0155.39	Study Completed, No Cleanup Required	199609
FTHU-89	West Range OB/OD Disposal Unit	Study Completed, No Cleanup Required	199908

Initiation of IRP: 1989

Past Phase Completion Milestones

Year

1989

Advice of Authorization, Group A, May

1990

Advice of Authorization, Group B, Jul

1991

PA/SI/UST Contract Initiated, Group C, Jun

1992

RI GROUP A Final Report, May

1993

RI GROUP B Final Report, Feb
Final PA/SI/UST Report, Group C, May

1994

FS Group A, Jun
FS Group B, Jun
PA/SI Group C, Jun

1995

RI/FS Group C, Sep

1996

RD/RA Group A, Sep
RD/RA Group B, Sep

1997

RA FTHU-83 Site #9 UST Release, Nov

1998

RI FTHU-51 Libby Army Air Field POL Storage Facility, Sep
RI FTHU-54 A AAFES Service Station, Jun
RI FTHU-79 11th Signal Brigade Fuel Station, Sep
RI FTHU-81 Old Post Fuel Station, Jul
RI FTHU-86 Abandoned Pipeline, Jul
RA(C) FTHU-85 UST Release Site Greely Hall, Dec

Past Phase Completion Milestones (continued)

1999

RI/FS FTHU-89 West Range OB/OD Area, Aug

2000

RA(C) FTHU-90 UST Release Site Greely Hall, Aug

RI FTHU-69 TMP Above ground Waste Tank Site, Dec

RI FTHU-70 TMP Steam Cleaning Facility, Dec

2001

RA(C) FTHU-17 East Range OB/OD Area, Jan

RA(C) FTHU-18 South Range OB/OD Area, Jan

RD FTHU-52 Fire Fighting Training Area, Aug

2002

RI/FS FTHU-67 TMP Drum Storage Area, Mar

RI/FS FTHU-73 Golf Course Pesticide Mix Area, Mar

2004

Decision Document FTHU-65 East Range Mine Shaft Aug

Projected Record of Decision(ROD)/Decision Document (DD) Approval Dates: NA

Schedule for Next Five-Year Review: 2009

Estimated Completion Date of IRP (including LTM phase): 2016

Fort Huachuca IRP Schedule

(based on current funding constraints)

AEDB-R #	Phase	FY07	FY08	FY09	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
FTHU-10	LTM										201609
FTHU-54A	RA(O)										
FTHU-65	LTM										201512
FTHU-85	IMP(O)										
FTHU-90	IMP(O)										

Prior Years Funds**Total Funding up to FY04: \$8,484,000**

Year	Site Information	Expenditures	FY Total
FY05	FTHU-54A, PX Service Station	41,790	
	FTHU-10, South Range Landfill	43,660	
	FTHU-85, Bioventing System		
	LUST File 0155,06,	12,740	
	FTHU-90, Soil Vapor Extraction System		
	LUST File 0155.06	12,740	\$110,930

Total Funding up to FY05: \$8,595,000**Current Year Funds**

Year	Site Information	Expenditures	FY Total
FY06	PX Service Station, FTHU-54A	35,000	
	South Range Landfill, FTHU-10	28,000	
	Bioventing System LUST File 0155,06,	12,000	
	FTHU-85		
	Soil Vapor Extraction System LUST File	19,000	
	0155.06, FTHU-90		
	East Range Mineshaft, FTHU-65	0	\$94,000

FY 06 Total Funding: \$94,000**Total Future Requirements: \$ 530,000****Total IR Program Cost (from inception to completion of the IRP): \$ 9,219,000**

FORT HUACHUCA

Military Munitions Response Program

Total AEDB-R MMRP Sites / AEDB-R sites with Response Complete: 16/0

AEDB-R Site Types:

16 Small Arms Ranges

Most Widespread Contaminants of Concern: UXO

Media of Concern: Groundwater, Soil

Completed REM/IRA/RA: None

Total MMRP Funding

Prior Year Funds (up to FY05):	\$	552,000
Current Year Funding (FY06):	\$	35,000
Future Requirements (FY07+):	\$	59,095,000
Total:	\$	59,682,000

Duration of MMRP

Year of MMRP Inception: 2002

Year of MMRP RC: 2017

Year of MMRP Completion including LTM: 2047

MMRP Contamination Assessment

MMRP Contamination Assessment Overview

A CTT Inventory was completed in 2003. The CTT Inventory identified a total of sixteen (16) Small Arms Ranges. Army and DoD experience indicates that contamination on small arms ranges is primarily lead in soils and that remediation of these sites would primarily consist of excavation, off-site transportation, stabilization, and recycling. No MEC components would be expected at small arms ranges; therefore, they are not included in the estimate. Although the types of small arms ranges and patterns of contamination can vary, assumptions for this CTC estimate were based on the characteristics of a typical pistol and/or rifle MMRP range.

The SI phase was initiated in 2005.

MMRP Cleanup Exit Strategy: The installation plans to complete all SIs by 2007 and execute follow on phases/actions as required in the individual site cleanup strategies. Planned follow on phases include: RI/FS at all 10 sites followed by excavation and off-site disposal. Additionally, MEC Site Characterization, removal action, institutional controls and monitoring is assumed at 7 of the 10 sites.

Previous Studies

2003

- Closed Transferring and Transferred Inventory, May

FORT HUACHUCA

Military Munitions Response Program Site Descriptions

FTHU-001-R-01

RANGE 18

SITE DESCRIPTION

This is a transferred range, owned by the U.S. Department of Agriculture, National Forest Service, comprising 111 acres in an undeveloped area to the southeast of the southern part of the installation. A historical map shows this range's safety fan extending offsite. Further information on the use of this range is unknown, although it was within a cluster of other small arms ranges and interviewees stated that small arms would have been used here. No remediation activities are known to have taken place at this range. This range was never owned by DoD.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste and UXO removal with land use controls is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 5 – Negligible Risk

CONTAMINANTS OF CONCERN:
Explosive Waste

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA.....	200110	200305
SI.....	200506	200703
RI/FS	201110	201209
RD	201510	201609
RA(C)	201610	201709

RC DATE: 201709

FTHU-002-R-01

1934 ARTILLERY PRACTICE FIRING AREA

SITE DESCRIPTION

This is a closed range, still owned by the U.S. Army, comprising 160 acres on the western side of the installation cantonment area. This area was used at least during one day in 1934 for artillery exercises, according to a contemporaneous newspaper article. The boundaries were estimated based on the danger zones described in that newspaper article. According to a former installation employee, pre-1900 small arms ammunition was found in the portion of this range that is now the magazine area. This area is currently partly undeveloped, and partly used for an ammunition magazine. No remediation activities are known to have taken place at this range.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste and UXO removal with land use controls is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 – Serious Risk

CONTAMINANTS OF CONCERN:
Explosives

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200506	200703
RI/FS	201110	201209
RA(C)	201610	201709
LTM	201710	204709

RC DATE: 201709

FTHU-003-R-01

CHARLESTON COMBAT CITY

SITE DESCRIPTION

This is a transferred range, owned by the U.S. Bureau of Land Management, comprising 1,199 acres to the east of the installation's East Artillery Range, near the San Pedro River. This range was a ghost town used for simulated street fighting exercises between World War I and World War II. Personnel would have to seize the ghost town in training exercises. The men advanced 2,000 yards back of the artillery barrage, and came within 20 feet of machine gun fire. This area is currently undeveloped. It was assumed that the firing in this range was generally toward the west, due to the proximity of the river and other ranges. The shape of the range has been modified by the fact that what would have been the western portion of this range falls within a FUDS-designated area, which removes that land from CTT consideration. This range was never owned by DoD. No remediation activities are known to have taken place at this range.

The site has a number of complicating factors, to include a National Historic Register Site, is critical habitat for two endangered species (Southwest Willow Flycatcher and Huachuca Water Umbel) and is within the San Pedro Riparian National Conservation Area.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste and UXO removal with land use controls is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 4 –Low Risk

CONTAMINANTS OF CONCERN:
Explosives

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200506	200703
RI/FS	201110	201209
RD	201510	201609
RA(C)	201610	201709
LTM	201710	203209

RC DATE: 201709

FTHU-004-R-01

RANGE 11

SITE DESCRIPTION

This is a transferred range, owned by the U.S. Department of Agriculture, National Forest Service, comprising 19 acres in an undeveloped area to the west of the southern part of the installation. This range was used in 1952 as an infiltration course, and in 1983 with M-70s. As of 1983, 83,331 rounds had been fired on the main range, though it is unclear how many of these rounds would have landed outside the installation boundary. Range personnel stated that because of the mountainous topography and elevated nature of this range that such deposition could not occur. However, LTC Larson stated, and provided graphic studies showing, that it is in fact possible that munitions from this range may have ended up in this location. No remediation activities are known to have taken place at this range. This range was never owned by DOD.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste and UXO removal with land use controls is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 5 – Negligible Risk

CONTAMINANTS OF CONCERN:
Explosives

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA.....	200110	200305
SI.....	200506	200703
RI/FS	200110	201209
RD	201510	201609
RA(C)	201610	201709
LTM	201710	204709

RC DATE: 201709

FTHU-005-R-01

1977 TRAINING AREA A/GOLF COURSE

SITE DESCRIPTION

This is a closed range, still owned by the U.S. Army, comprising of 180 acres in the same area that is now the installation golf course. According to the former Installation Range Officer, training exercises in this range included the use of blank ammunition, pyrotechnics, smoke, grenade and artillery simulations. According to former Range Officer, most of the munitions in this area would have been cleared up when the golf course was constructed.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, however, waste and UXO removal with land use controls is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 – Serious Risk

CONTAMINANTS OF CONCERN:
Explosives

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200506	200703
RI/FS	201110	201209
RA(C)	201610	201709
LTM	201710	204709

RC DATE: 201709

FTHU-006-R-01

1977 TRAINING AREA B/AEROSTAT SITE

SITE DESCRIPTION

This is a closed range, still owned by the U.S. Army, comprising 24 acres in the same area that is now the installation Aerostat (drug interdiction) Balloon site. According to the former installation Range Officer, training exercises in this range included the use of blank ammunition, pyrotechnics, smoke, grenade and artillery simulations. According to former Range Officer, most of the munitions in this area would have been cleared up when the Aerostat Balloon site was created.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste and UXO removal with land use controls is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 3 – Moderate Risk

CONTAMINANTS OF CONCERN:
Explosive

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200506	200703
RI/FS	200110	201209
RD	201510	201609
RA(C)	201610	201709
LTM	201710	204709

RC DATE: 201709

FTHU-007-R-01

MINE FIELD NEAR AIRPORT

SITE DESCRIPTION

Currently, this range is owned by the U.S. Army, comprising 0.71 acres near the installation airport to the north of the cantonment area. This range is part of an undeveloped open field near the airport runways. This area was reviewed in 1987 for spent munitions. A total of six mines were found: three high-explosive landmines, the practice version of an M4 anti-tank mine, and two training mines. These mines were cleared shortly thereafter, but the Army would still not offer a certificate of clearance for this area.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, however, waste and UXO removal with land use controls is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 – Serious Risk

CONTAMINANTS OF CONCERN:
Explosive

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200506	200703
RI/FS	200110	201209
RD	201510	201609
RA(C)	201610	201709
LTM	201710	204709

RC DATE: 201709

FTHU-009-R-01

INFILTRATION RANGE

SITE DESCRIPTION

This is a transferred range, owned by the U.S. Department of Agriculture, National Forest Service, comprising 15 acres of undeveloped land to the southeast of the southern part of the installation. A historical map shows this range's safety fan extending offsite. Supplemental information indicates that .30 caliber machine guns and small explosives were generally used in infiltration ranges. No remediation activities are known to have taken place at this range. This range was never owned by DoD.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste removal and UXO with land use controls is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 4 – Low Risk

CONTAMINANTS OF CONCERN:
Explosive

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200506	200703
RI/FS	200110	201209
RD	201510	201609
RA(C)	201610	201709
LTM	201710	204709

RC DATE: 201709

FTHU-010-R-01 TRANSITION RANGE

SITE DESCRIPTION

This is a transferred range, owned by the U.S. Department of Agriculture, National Forest Service, comprising 24 acres in an undeveloped area to the southeast of the southern part of the installation. The transition range had a range fan extending beyond the installation boundary. In general, 7.62 and 5.56 millimeter rifles were fired at this multi-distance range. No remediation activities are known to have taken place at this range. This range was never owned by DoD.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste removal is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 5 – Negligible Risk

CONTAMINANTS OF CONCERN:
Explosives

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200506	200703
RI/FS	200110	201209
RD	201510	201609
RA(C)	201610	201709

RC DATE: 201709

FTHU-011-R-01

UNIDENTIFIED WESTERN RANGE FAN

SITE DESCRIPTION

This is a transferred range, owned by the U.S. Department of Agriculture, National Forest Service, comprising 71 acres in an undeveloped area to the west of the installation. This range is comprised of a safety fan that extended offsite; no further information was available regarding the uses of this range. According to Range personnel, because of the nature of the higher mountainous topography at the distant western end of the fan, it would have been impossible for munitions to end up outside the site boundary within this fan, and that is why the waivers were issued. However, Range personnel at the Arizona NGB offered oral and graphic information suggesting that depending upon the use and elevations of the weapons being fired, some of the munitions fired at these ranges could in fact have been fired over the mountains on the western installation boundary. No remediation activities are known to have taken place at this range. This range was never owned by DoD.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 5 – Negligible Risk

CONTAMINANTS OF CONCERN:
Explosives

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI SI.....	200506	200703
RI/FS	200110	201209
RD	201510	201609
RA(C)	201610	201709

RC DATE: 201709

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste removal is expected.

FTHU-012-R-01

EAA RANGE 1

SITE DESCRIPTION

This is a transferred range, with private ownership, comprising 12 acres in an undeveloped area to the northeast of the installation's East Artillery Range. No historical information was collected regarding this land's use as a range, except that acquisition documents described this property as land that was to be used as part of the installation's East Artillery Range. It should be noted that a child was killed in a historical incident involving UXO at or near EAA 3. Although EAA 1 is a separate tract from EAA 3, the two tracts were acquired in the same era, north of the East Artillery Range, and according to acquisition documents, for generally the same purposes. An assumption was made that the munitions found in the EAA ranges would be the same as the munitions used and found in the East Artillery Range, because these parcels were obtained for range purposes as part of the East Artillery Range. The munitions found in the East Artillery Range were noted by installation personnel. Although munitions were removed from the East Artillery Range, no remediation activities are known to have taken place at this range. The land for this range was owned by the Army beginning sometime in the late 1930s or early 1940. It is unknown when this land was transferred back to other owners.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste and UXO removal with land use controls is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 – Serious Risk

CONTAMINANTS OF CONCERN:
Explosive

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200506	200703
RI/FS	201110	201209
RD	201510	201609
RA(C)	201610	201709
LTM	201710	204709

RC DATE: 201709

FTHU-013-R-01

EAA RANGE 2

SITE DESCRIPTION

This is a transferred range, with private ownership, comprising 761 acres north and adjacent to the installation's East Artillery Range. No historical information was collected regarding this land's use as a range, except that acquisition documents described this property as land that was to be used as part of the installation's East Artillery Range. It should be noted that a child was killed in a historical incident involving UXO at or near EEPA 3, which is near EAA 2. Although EAA 2 is a separate tract from EAA 3, the two tracts were acquired in the same era, north of the East Artillery Range, and according to acquisition documents, for generally the same purposes. The area of this range is currently used primarily as farmland. An assumption was made that the munitions found in the EAA ranges would be the same as the munitions used and found in the East Artillery Range, because these parcels were obtained as range land as part of the East Artillery Range. The munitions found in the East Artillery Range were noted by installation personnel. Although munitions were removed from the East Artillery Range, no remediation activities are known to have taken place at this range. The land for this range was owned by the Army beginning sometime in the late 1930s or early 1940s. It is unknown when this land was transferred back to other owners.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 – Serious Risk

CONTAMINANTS OF CONCERN:
Explosive

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200506	200703
RI.....	201110	201209
RD	201510	201609
RA(C)	201610	201709
LTM	201710	204709

RC DATE: 201709

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste and UXO removal with land use controls is expected.

FTHU-014-R-01

EAA RANGE 3

SITE DESCRIPTION

This is a transferred range, with private ownership, comprising 568 acres to the northwest and adjacent to the installation's East Artillery Range, in and around Huachuca City, Arizona. The current use of the land comprising this range is primarily residential. No historical information was collected regarding this land's use as a range, except that acquisition documents described this property as land that was to be used as part of the installation's East Artillery Range. It should be noted that a child was killed in a historical incident involving UXO at or near EEA 3. An assumption was made that the munitions found in the EAA ranges would be the same as the munitions used and found in the East Artillery Range, because these parcels were obtained as range land as part of the East Artillery Range. The munitions found in the East Artillery Range were noted by installation personnel. Although munitions were removed from the East Artillery Range, no remediation activities are known to have taken place at this range. The land for this range was owned by the Army beginning sometime in the late 1930s or early 1940s. It is unknown when this land was transferred back to other owners.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste and UXO removal with land use controls is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 – Serious Risk

CONTAMINANTS OF CONCERN:
Explosives

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200506	200703
RI.....	201110	201209
RD	201510	201609
RA(C)	201610	201709
LTM	201710	204709

RC DATE: 201709

FTHU-015-R-01

OPEN FIELD ARTILLERY RANGE

SITE DESCRIPTION

This is a closed range, still owned by the U.S. Army, comprising 132 acres on the west side of the installation's cantonment area. This range is shown on two maps as having a firing point near the former intersection of Whiteside and 3rd Streets. It is currently an undeveloped portion of the installation cantonment area. The direction of fire for this range was not indicated on the referenced maps. However, it was assumed that the firing direction was to the south, with the firing direction shown on another map for an area also referred to as an open field artillery range. No remediation activities are known to have taken place at this range.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste and UXO removal with land use controls is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 – Serious Risk

CONTAMINANTS OF CONCERN:
Explosive

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200506	200703
RI.....	201110	201209
RD	201510	201609
RA(C)	201610	201709
LTM	201710	204709

RC DATE: 201709

FTHU-016-R-01

1977 TRAINING AREA C

SITE DESCRIPTION

This is a closed range, still owned by the U.S. Army, comprising 135 acres in the southern portion of what is now an undeveloped portion of the installation cantonment area. According to the Installation Range Officer, training exercises in this range included the use of blank ammunition, pyrotechnics, smoke, grenade and artillery simulations. This area also covers a historical bayonet course that comprised 3.54 acres and was shown on a 1941 map of the installation; there was no other information available regarding this range. No remediation activities are known to have taken place at this range.

CLEANUP STRATEGY

SI will be completed to determine what further action is necessary; however, waste and UXO removal with land use controls is expected.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 – Serious Risk

CONTAMINANTS OF CONCERN:
Explosive

MEDIA OF CONCERN:
Groundwater, Soil

Phases	Start	End
PA	200110	200305
SI	200506	200703
RI	201110	201209
RD	201510	201609
RA(C)	201610	201709
LTM	201710	204709

RC DATE: 201709

MMRP No Further Action Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	RC Date
FTHU-008-R-01	Range 12 A/B	Operational Range, therefore is not eligible for the MMRP	200511

Initiation of MMRP: 2002

Past Phase Completion Milestones
2003

- CTT Inventory, May

Projected ROD/DD Approval Dates: 201710

Projected Construction Completion: 201709

Schedule for Five Year Reviews: NA

Estimated Completion Date of MMRP including LTM: 204709

Fort Huachuca MMRP Schedule

(Based on current funding constraints)

AEDB-R Site	Phase	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
FTHU-001-R-01	RI/FS									
	RD									201609
	RA(C)									201709
FTHU-002-R-01	RI/FS									
	RA(C)									201709
	LTM									204709
FTHU-003-R-01	RI/FS									
	RD									201609
	RA(C)									201709
	LTM									203209
FTHU-004-R-01	RI/FS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTHU-005-R-01	RI/FS									
	RA(C)									201709
	LTM									204709
FTHU-006-R-01	RI/FS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTHU-007-R-01	RI/FS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTHU-009-R-01	RI/FS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTHU-010-R-01	RI/FS									
	RD									201609
	RA(C)									201709
FTHU-011-R-01	RI/FS									
	RD									201609
	RA(C)									201709
FTHU-012-R-01	RI/FS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTHU-013-R-01	RI/FS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTHU-014-R-01	RI/FS									
	RD									201609
	RA(C)									201709
	LTM									204709
FTHU-015-R-01	RI/FS									

Fort Huachuca MMRP Schedule

(Based on current funding constraints)

AEDB-R Site	Phase	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
	RD									201609
	RA(C)									201709
	LTM									204709
FTHU-016-R-01	RI/FS									
	RD									201609
	RA(C)									201709
	LTM									204709

Prior Years Funds**Total Funding up to FY04: \$400K**

Year	Site Information	Expenditures	FY Total
FY 05	SI, Installation-wide	\$152K	\$152K

Total Funding up to FY05: \$552K***Current Year Funds***

Year	Site Information	Expenditures	FY Total
FY 06	S & R	\$35	\$35

Total Funding FY06: \$35K***Total Future Requirements: \$59,095K******Total MMR Program Cost (from inception to completion of the IRP): \$59,682K***

A. Status of Community Involvement

The communities adjacent to Fort Huachuca include Sierra Vista and Huachuca City. The Arizona Department of Environmental Quality (ADEQ) is responsible for publishing Corrective Action and Closure Plans. These plans are also listed on the ADEQ's internet web site. Additionally, the ADEQ holds public meetings at the request of citizens in the surrounding communities if comments are received on the Corrective Action or Closure Plans. The ADEQ has indicated to Fort Huachuca that it is responsible by state law for managing community involvement and public hearings concerning Environmental Corrective Actions. To date the ADEQ has informed the installation that there has been no public interest expressed on any of the corrective actions or closure plan activities on the installation. A public interest survey was conducted in August 2004.

The Arizona Department of Environmental Quality is responsible for coordinating all public input into environmental corrective actions. They have informed the installation that there has been no interest expressed in any of the ongoing corrective actions presently being conducted on the Post. The Installation Commander has determined that there was not enough community interest to establish a RAB based on the lack of response from the ADEQ efforts.

B. Determining Interest In Establishing RAB

In addition to the above state involvement the installation has worked with the Fort Huachuca Public Affairs Office to determine if there is any interest from the neighboring communities in the restoration work on the installation. To date the installation has not received any comments from the community on the program. The installation is not on the National Priorities List (NPL) and does not have a large restoration program.

Fort Huachuca has not received any requests for establishing a Restoration Advisory Board (RAB) from the surrounding local communities. While a RAB has not been established by the installation, the Arizona Department of Environmental Quality is required to provide public notification of all remedial actions addressing underground storage tanks and hazardous waste remediation efforts required by the installation. This consists of notification of the community in the local papers of the type of remedial action planned for the site. Additionally, copies of the Corrective Action Plans (CAPs) are made available in the Sierra Vista Public Library for review by the public before commencing work on remediating the site. Based on a response from the public a meeting may be scheduled to address any questions or concerns the community may have on the CAP. To date there have been no public inquiries on any of the remediation efforts initiated on the installation.

C. Interest in the Technical Assistance for Public Participation (TAPP) Program

The installation has three corrective action activities currently ongoing. They are an air sparging system at FTHU-54A, a bio-venting system at FTHU-85, and a vapor extraction system for the gasoline release at FTHU-90.

No future plans to solicit a RAB